

ABSTRACT OF THE DISCLOSURE

A contact hole formation method comprising a process of depositing a BPSG film 4 on a semiconductor substrate 1 on which 5 transistors are formed, a process of planarizing the BPSG film 4, a process of depositing a dielectric film 5 on the BPSG film 4, and a process of forming contact holes 8 through the BPSG film 4 and the dielectric film 5 so as to reach the semiconductor substrate 1, in the case where gate electrodes are densely formed in some 10 areas and sparsely formed in other areas. The above-described contact hole formation method allows a thickness of the BPSG film 4 to be uniform irrespective of density of the gate electrodes, whereby an etching rate becomes uniform over the entire area of the semiconductor device. Thus, it is possible to form contact 15 holes having minimized variations in a contact resistance and a value of leakage current.